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ABSTRACT

A study was conducted to assess the skill of students in identifying meanings of facial expressions in photographs used in the Facial Meaning Sensitivity Test (FMST). Subjects were 55 speech pathology students, 39 nursing students, and 36 speech communication students. The first part of the three part test asked subjects to match 10 photographs with the 10 broad classes of facial meaning, including happiness, sadness, surprise, anger, and fear. Part two presented 30 photographs and required subjects to pick three showing gradations of the 10 broad classes of meaning. Part three presented the 30 photographs arranged in triads, which subjects must then match to the appropriate category. None of the subjects had received any training in reading facial expressions at the time of the testing. The results indicated that one-third of the subjects demonstrated below average skills in decoding facial expressions. The results suggest a need for instruction in nonverbal communication for students in the helping professions such as nursing and speech pathology. (HTH)

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An Assessment and Comparison of Facial Meaning Decoding Skills of Selected University Students

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An Assessment and Comparison of Facial Meaning Decoding Skills of Selected University Students

Abstract

This study assessed the skill of 55 Speech Pathology students, 39 Nursing students, and 36 Speech Communication students in the identification of facial meaning expressed in photographs of the Facial Meaning Sensitivity Test. Results suggest that one-third of these University students demonstrated below average skills in decoding facial expressions. The authors suggest the need for instruction in non-verbal communication for students majoring in the helping professions such as Nursing and Speech Pathology.

INTRODUCTION

Schools and universities have traditionally evaluated students and their achievement of academic goals with a variety of measuring tools. Refinements in testing have led to a more appropriate matching of students and careers or areas of study in regard to aptitudes, personality characteristics, and aspirations. Research and study in the field of nonverbal communication have identified an added dimension of effectiveness in human interaction, that is the ability to both send (encode) and receive (decode) nonverbal messages.[1] The variety of articles in both the scholarly and popular press attest to wide interest in this field and the growing recognition of the value of nonverbal research findings to virtually all human interaction.[2]

Although nonverbal communciation includes messages sent through and received from several channels, most scholars agree that the face has primary importance.[3] It is highly visible during interpersonal interactions, speakers tend to observe their listener's face to detect feelings and emotions or responses to whatever stimuli are present. The face is capable of many combinations that produce both broad and subtle expressive cues.[4]

Although most every listener seems to attend to a speaker's face, research shows that the ability to read and correctly interpret what is seen varies. Some of the differences in interpretive (decoding) ability may be attributed to age and maturity, the degree of interest in the speaker, or other easily understood factors. In some cases, however, we cannot account for variations so readily.[5]

The ability to encode and decode nonverbal messages should contribute to the effectiveness and satisfaction of any interpersonal encounter. Under certain circumstances, however, the quality of the interaction is a serious matter and misinterpretation may have grave consequences. For some members of our society, these abilities are of sufficient importance to be formally assessed and

actively taught. For example, those who engage in social services and/or any branch of the medical or therapeutic professions need superior sensitivity to facial cues as a means of detecting internal states. This is especially true when patients or clients are unwilling or unable to verbilize adequately. Extreme age, illness, lack of familiarity with medical terminology, fear regarding their condition, and inadequate education are examples of situations which negatively affect interactions between professionals and lay persons. In addition, the nature and purpose of the therapeutic encounter presuppose that the trained member of the dyad is willing and ready to respond to the needs of the client. This disposition of the professional to respond should be matched by corresponding ability to detect and assess these needs. Until recently it has been difficult to determine whether or not pre-professional students either had or were acquiring the sensitivity to facial expressions needed to be effective professionals.

The appearance of the Leathers' and Emigh's article "Decoding Facial Expressions: A New Test with Decoding Norms" in a 1980 volume of the Quarterly Journal of Speech signaled the availablilty of a new, easy to administer, and validated instrument - "The Facial Meaning Sensitivity Test". This instrument (FMST) provides both specific and categorical norm scores in regard to subjects' ability to interpret and verbally label facial expressions from photographs.[6]

PURPOSE

This paper reports the facial affect decoding abilities of students in Speech Communication, Speech Pathology and Nursing. The students in Nursing and Speech Pathology were considered representatives of therapeutic fields, while students from Speech Communication were considered representative of a more general education area.

The three purposes of this study were to:

1. assess the skill of students in identifing facial meanings as measured by the FMST.
2. compare facial meaning decoding skills among students in Speech Pathology, Nursing, and Speech Communication.
3. compare skills of students in these three groups with those reported in norms provided by Leathers and Emigh (1980).

INSTRUMENTATION

The Facial Meaning Sensitivity Test (FMST) consists of photographs arranged in a specific order. The score sheets contain standard instructions for administration and scoring. The test provides specific and categorical norms. Subjects were required to match photographs with labels of facial expression. The test, in effect, presents subjects with the task of identifying broad general expressions, more subtle expressions, and blends of expressions. Furthermore, it explores the subjects' competency with language by asking subjects to choose from among a variety of expressive labels which are appropriately discriminatory.

The FMST has three parts. Part one asks subjects to match ten photographs with the ten broad classes of facial meaning: these classes are happiness, sadness, surprise, anger, fear, contempt, disgust, interest, determination, and bewilderment. Part Two presents 30 photographs and requires subjects to pick three which are gradations of the ten broad classes of meaning. Part Three presents the subjects with the 30 photographs from Part Two. The photographs are arranged into triads. Each triad is a within-class representation corresponding to one of the ten broad classes of facial expression. The triads must be matched to the appropriate category.[7]

METHODOLOGY

None of the subjects had received any training in reading facial expressions at the time of the testing. Table I shows that there were 55 Speech Pathology majors; 39 Nursing majors; and 36 students in the Speech Communication classes.

The FMST photographs, instructions, and answer forms were identical to those used by Leathers and Emigh (1980). Tests were administered in the classrooms of the selected groups during regular class times in the fall semester of 1983.

The results were scored according to the directions provided by Leathers and Emigh which included a weighting factor in Parts Two and Three.[8] Scores were then divided into three categories: "Good" represented those scores more than on standard deviation above the mean; "Average" represented those within one standard deviation of the mean; and "Poor" represented those scores lower than on standard deviation below the mean. In the sample of subjects reported by Leathers and Emigh, Table I shows that these categories were described as follows: in Part One, 100-91 represented "Good" decoding skills; 90-71 represented "Average" decoding skills; and 70 or below represented "Poor" decoding skills. For Part Two, scores of 100-83 were in the "Good" category; scores of 82-61 were considered "Average"; and scores of 60 or below were considered "Poor". In Part Three, 100-90 represented "Good"; scores of 89-70 were considered "Average"; and scores of 69 or below were considered "Poor". Since we wished to compare our students to the norms, these same categories were used.

RESULTS

Part One

The task of the subjects on Part One of this study was to identify 10 basic

facial meanings. The mean score for our combined group (N=129) was 80. This is 10 points below the mean reported by Leathers and Emigh. The Speech Pathology students (N=55) had a mean score of 81; Nursing students (N=39) had a mean score of 79; and Speech Communication Students (N=36) had a mean score of 79. This means that all of our students were similar.

When scores were divided into "Good", "Average", and "Poor" for Part One, the following results were observed. Table I shows that the 55 Speech Pathology subjects, 41.82 percent scored "Good" performance: 21.82 percent scored "Average" performance; and 36.36 percent scored "Poor" performance. Of the Nursing subjects (N=39), 38.46 percent scored "Good" performance; 25.64 percent scored "Average" performance; and 35.90 percent scored "Poor" performance. Of the Speech Communication Students (N=36), 30.55 percent scored "Good" performance; 30.55 percent scored "Average" performance; and 38.89 percent scored "Poor" performance. (See Table I)

Leathers and Emigh also reported the percentage of subjects who correctly identified each facial expression. Our subjects performed the same as theirs on sadness (97%) but were below the normative group for disgust, happiness, interest, bewilderment, contempt, anger, and determination. Our subjects performed slightly above the normative group on surprise and fear. (See Table 2)

Part Two

In this part of the study, subjects were presented with 30 photographs and asked to pick three which are representations of each of the ten broad classes of facial meaning. Each photograph was to be used only once. Because of the range of possible choices, scoring of this section is based on a weighted scheme explained by Leathers and Emigh. The results are summarized on Table 3. Of the 55 Speech Pathology subjects, 12.73 percent scored "Good" performance; 63.64 percent scored "Average" performance; and 23.64 percent scored "Poor" performance.

Of the Nursing subjects (N=39), 20.51 percent scored "Good" performance; 48.72 percent scored "Average" performance; and 30.77 percent scored "Poor" performance. Of the Speech Communication Students (N=36), 13.89 percent scored "Good" performance; 58.33 percent scored "Average" performance; and 27.78 percent scored "Poor" performance. (See Table 3)

Part Three

In Part Three, subjects were presented with the 30 photographs divided into groups of three which represented within-class gradations of the 10 broad classes. For example, anger was divided into hate, rage and annoyance. The verbal labels for these within-class representations were provided and subjects were instructed to match the within-class label with the within-class photograph.

Performance, again, was evaluated using a weighted scoring technique. The results are shown in Table 4 and indicate that 1.82 percent of the Speech Pathology students fell into the "Good" category, 63.64 percent fell into the "Average" category and 27.27 percent fell into the "Poor" category, 7.27 percent of the students did not respond. In the Nursing student group, 5.13 percent fell into the "Good" category, 58.97 percent fell into the "Average" category, 33.33 percent were in the "Poor" category, while 2.56 percent did not respond. Within the Speech Communication class, 5.56 percent fell into the "Good" category, 55.56 percent fell into the "Average" category, 36.11 percent fell into the "Poor" category, with 2.78 percent of the subjects not responding.

DISCUSSION

Even a cursory comparison discloses that scores for subjects in our study were not identical to the norms provided on the FMST. The mean score of our group on Part One was 10 points below the mean score of the normative group. On Parts Two and Three almost one third of our students failed to achieve scores

in the average or above average range. No differences among the three groups of students were observed.

Two factors, age and maturity, may have affected the performance of the subjects used in the present study. There is a possibility that our group was younger and less mature than the group of engineers, executives, university students and members of fraternal and civic organizations used by Leathers and Emigh. There is, however, no significant difference in the decoding behaviors of the groups of individuals used in the normative sample.

There is also a possibility that the group used in the present study is "less able" academically than the original normative group. Students at this university are required to score only 15 on the ACT for college entrance. Their academic preparation, apitude and achievement levels may be lower than those of the subjects in the Leathers and Emigh group. It is not known whether these factors can influence performance on the FMST.

Additionally, the students participating in this study did so during their regular class times, but the degree of their interest and attentiveness to this task was not assessed. Lack of interest, if present, could be a factor in the low performance scores observed.

Several studies are suggested on the basis of the present research. Additional testing should be conducted and related to ACT scores to determine if there is a relationship between sensitivity to facial expressions and academic abilities. It is possible that the matching of the expression to perceived meanings of words used for labels is affected by poor verbal skills.

Students in health-related professional training and other disciplines in which sensitivity to facial expressions is important should score at least average on the FMST. Those who cannot should be exposed to educational methods already in existence to improve their skills.[10] Individual students who cannot

make sufficient progress, should, perhaps, be encouraged to select other careers. Testing should be extended to students in counseling, social work, and teacher education.

Volunteer testing sessions should be conducted as part of in-service training procedures to determine if working professionals possess average ability to decode facial meaning. Practice should be offered to those whose skills are below average.

This study suggests that further research is needed to investigate such questions as: Are members of the therapeutic professions inept at identifying facial meaning? Do deficiences in reading facial expressions affect their relationships with patients? Will these professionals respond to training and increase their skills in this area? Perhaps, more groups should be compared to the normative sample offered by Leathers and Emigh.

SUMMARY

In the QJS article previously cited, Leathers and Emigh referred to the 1978 Task Force on Minimal Speaking/Listening Competencies of the Speech Communication Association which includes the appropriate use (encoding and decoding) of facial expressions as a factor of communication competency.[11] The results from this study suggest that one-third of the university students tested demonstrated below average skills in decoding facial expressions. This finding lends support to SCA's recommendations that communication skills be addressed prior to the completion of high school. Interpersonal skills are important to all members of our society; they are sufficiently important to students and practitioners in the helping professions that assessing these skills are treating deficiencies should take place promptly. The FMST provides one way to begin.

FOOTNOTES

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[6]Dale G. Leathers and Ted H. Emigh, "Decoding Facial Expressions: A New Test with Decoding Norms," Quarterly Journal of Speech, 66 (1980), pp. 418-436.

[7]Leathers and Emigh, p. 423.

[8]Leathers and Emigh, p. 431.

[9]Leathers and Emigh, pp. 426-32: 433-35.

[10]Paul Ekman and Wallace V. Friesen, Unmasking the Face: A Guideline to Recognizing Emotions from Facial Expressions (Englewood Cliffs, N.J.: Prentice-Hall, 1975), pp. 34-134; N. H. Frijda and E. Philipszoon, "Dimensions of Recognition of Expression, Journal of Abnormal and Social Psychology, 66 (1963), p. 46; and Stickle and Pellegreno, pp. 384-87.

[11]Ronald E. Bassett, Nilwon Whittington, and Ann Staton-Spicer, "The Basics in Speaking and Listening for High School Graduates: What Should Be Assessed," Communication Education, 27, (1978), p. 298.

Table 1

Percentage of Students in Each Category
of Skill in Identification of Facial Meaning - Part One

Category	Sp. Path (N=55)		Nursing (N=39)		Sp. Comm (N=36)	
Good	No.	Percent	No.	Percent	No.	Percent
100-91	23	41.82	15	38.46	11	30.55
Average						
90-71	12	21.82	10	25.64	11	30.55
Poor						
70-	20	36.36	14	35.90	14	38.89

Table 2

Accuracy of Identification for Basic Classes of Meaning
Communicated by Facial Expression: Part One of the FMST

Class of Meaning	Percentage of Correct Picture Identification	
	Leathers & Emigh	Shands & Bradley
Disgust	.88	.67
Happiness	.99	.98
Interest	.87	.76
Sadness	.97	.97
Bewilderment	.82	.70
Contempt	.89	.57
Surprise	.96	.98
Anger	.93	.88
Determination	.87	.64
Fear	.91	.92

Table 3

Percentage of Students in Each Category of Skill
in Identification of Facial Expressions Signaling Variations
of Basic Meanings

Category	Sp. Path (N=55)		Nursing(N=39)		Sp. Comm (N=36)	
	No.	Percent	No.	Percent	No.	Percent
Good						
100-83	7	12.73	8	20.51	5	13.89
Average						
82-61	35	63.64	19	48.72	21	58.33
Poor						
60-	13	23.64	12	30.77	10	27.78

Table 4

Percentage of Students in Each Category of Skill
in Identification of Specific Facial Expressions Within Each
Class of Meaning

Category	Sp. Pathology (N=55)		Nursing (N=39)		Sp Comm. (N=36)	
	No.	Percent	No.	Percent	No.	Percent
Good						
100-90	1	1.82	2	5.13	2	5.56
Average						
89-70	35	63.64	23	58.97	20	55.56
Poor						
69-	15	27.27	13	33.33	13	36.11
No Response						